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APPLICANT:	Vladek Kasperchik
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FOR:	DURABLE PRINTED COMPOSITE MATERIALS AND ASSOCIATED METHODS
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AMENDMENT/RESPONSE

CERTIFICATE OF MAILING UNDER 37 C.F.R. § 1.8

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APPELLANTS' APPEAL BRIEF UNDER 37 C.F.R. § 41.37

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450
Mail Stop Appeal Brief – Patents

Sir:

Appellants submit this Appeal Brief in connection with their appeal from the final rejection of the Patent Office, mailed June 11, 2009, in the above-identified application. A Notice of Appeal was filed on August 10, 2009, which was received by the USPTO on August 10, 2009.

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I. REAL PARTY IN INTEREST

The real party in interest is Hewlett-Packard Development Company, LP, a limited partnership established under the laws of the State of Texas and having a principal place of business at 20555 S.H. 249 Houston, TX 77070, U.S.A. (hereinafter "HPDC"). HPDC is a Texas limited partnership and is a wholly-owned affiliate of Hewlett-Packard Company, a Delaware Corporation, headquartered in Palo Alto, CA. The general or managing partner of HPDC is HPQ Holdings, LLC.

II. RELATED APPEALS AND INTERFERENCES

Appellants and Appellants' legal representatives know of no other appeals or interferences that will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

III. STATUS OF CLAIMS

Claims 1-5 and 7-49 remain pending. Claim 6 has been canceled. Claims 1-5, 7-14, and 49 are rejected and claims 36-48 are allowed. Claims 15-35 have been withdrawn. The claims on appeal in this application are claims 1-5, 7-14, and 49.

IV. STATUS OF AMENDMENTS

No amendments have been made since the final office action of June 11, 2009.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The presently claimed invention provides, as set forth in claim 1, a durable printed composite material (page 2, lines 6-7; page 5, line 14), comprising:

a printable layer having a viewing surface and a printed surface (page 5, lines 14-19), wherein an image is printed on the printed surface (page 6, lines 19-21), said printable layer comprising a transparent or translucent material (page 5, lines 15-16), said printable layer including an ink-receiving layer (page 5, line 30);

a metallic layer having an inner surface and an outer surface (page 2, lines 25-27), said inner surface of said metallic layer providing a reflective sheen background (page 7, lines 7-10), said reflective sheen background being visible through at least a portion of said printable layer (page 2, lines 10-11; page 20, lines 12-13); and

an adhesive layer adhered between the inner surface and the printed surface such that at least a portion of said metallic layer is visible through the printable layer (page 2, lines 8-11)

wherein at least one of the layers includes an additive configured for one of light stabilization, liquid resistance, or vapor resistance (page 8, lines 15-18).

Additionally, as claimed in claim 14, the present invention provides a durable printed flexible composite material (page 2, lines 6-7; page 5, line 14; page 12, lines 1-2), comprising:

a printable layer having a viewing surface and a printed surface (page 5, lines 14-19), wherein an image is printed on the printed surface (page 6, lines 19-21), said printable layer comprising a transparent or translucent material (page 5, lines 15-16);

a metallic foil layer having an inner surface and an outer surface (page 2, lines 25-27; page 7, lines 20-21), said inner surface of said metallic foil layer providing a reflective sheen background (page 7, lines 7-10), said reflective sheen background being visible through at least a portion of said printable layer (page 2, lines 10-11; page 20, lines 12-13);

an adhesive layer adhered between the inner surface and the printed surface (page 2, lines 8-11; page 9, lines 7-8); and

a protective layer adhered to the outer surface of the metallic layer (page 7, lines 23-25);

wherein the durable printed composite material has a thickness of from about 50 μm to about 250 μm (page 12, lines 3-5).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The issues presented for review are:

a. whether claims 1-5, 7-13, and 49 are unpatentable under 35 U.S.C. 103(a) as being obvious over U.S. Patent No. 6,849,149 (hereinafter "Otaki") in view of U.S. Patent No. 4,893,887 (hereinafter "Coates") and U.S. Patent No. 4,378,392 (hereinafter "Segel");

b. whether claim 14 is unpatentable under 35 U.S.C. 103(a) as being obvious over Otaki in view of Coates;

VII. ARGUMENT

A. Appellants' claimed invention

Appellants' claimed invention on appeal is outlined in independent claims 1 and 14, which respectively read as follows:

"[a] durable printed composite material, comprising:

a) a printable layer having a viewing surface and a printed surface, wherein an image is printed on the printed surface, said printable layer comprising a transparent or translucent material, said printable layer including an ink-receiving layer;

b) a metallic layer having an inner surface and an outer surface, said inner surface of said metallic layer providing a reflective sheen background, said reflective sheen background being visible through at least a portion of said printable layer; and

c) an adhesive layer adhered between the inner surface and the printed surface such that at least a portion of said metallic layer is visible through the printable layer

wherein at least one of the layers includes an additive configured for one of light stabilization, liquid resistance, or vapor resistance" and

"[a] durable printed flexible composite material, comprising:

a) a printable layer having a viewing surface and a printed surface, wherein an image is printed on the printed surface, said printable layer comprising a transparent or translucent material;

b) a metallic foil layer having an inner surface and an outer surface, said inner surface of said metallic foil layer providing a reflective sheen background, said reflective sheen background being visible through at least a portion of said printable layer;

c) an adhesive layer adhered between the inner surface and the printed surface; and

d) a protective layer adhered to the outer surface of the metallic layer;

wherein the durable printed composite material has a thickness of from about 50 μm to about 250 μm."

B. The Asserted References

1. The Otaki Reference

Otaki discloses a hologram laminate and a hologram label (Abstract). More specifically, Otaki discloses a hologram laminate comprising: "a substrate; a hologram layer provided on the substrate through a first pressure sensitive adhesive layer; and a transparent film provided on the hologram layer through a second pressure sensitive adhesive layer. (Abstract and col. 4, lines 55-60). The hologram of Otaki may be either a volume hologram or a relief hologram (col. 15, lines 6-13). Otaki does not teach a metallic foil. The protective film of Otaki may be colored and transparent (col. 35, lines 12-13).

2. The Coates Reference

Coates discloses a metallic hologram comprising an image formed and mounted on a substrate using an adhesive (Abstract and col. 1, lines 31-32). The metallic hologram of Coates comprises a thin layer of metal, which is always formed and mounted on a substrate (Abstract; col. 2, lines 8-10, 18-22, and 27-31). The metallic reflecting hologram of Coates is prepared by use of a die having a holographic image thereon (col. 1, lines 28-32). As such, Coates does not teach any embodiment wherein the metallic hologram or metallic layer is not imaged or embossed. Id. Coates further discloses that the metallic layer is necessarily very thin and is fabricated or deposited on a die or substrate which is then used for transferring purposes (col. 2, lines 5-11 and lines 42-49). Coates further discloses methods, such as vacuum metallization, sputtering and vacuum depositing the thin layer of metal directly on the die (col. 2, lines 6-7, 15-17, and 27-29).

C. Rejections Under 35 U.S.C. § 103(a)

1. Requirements for Prima Facie obviousness

The Examiner has rejected all of the pending claims under § 103(a) as being *prima facie* obvious over a number of references. The Patent and Trademark Office (PTO), through the Examiner, has the burden of establishing a *prima facie* case of obviousness. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1998). To satisfy this burden, the PTO must meet the criteria set out in M.P.E.P. § 706.02(j):

> [T]hree basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on Appellant's disclosure. *In re Vaeck,* 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Moreover, the obviousness analysis must comply with the statutory scheme as explained by the Supreme Court in *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966), namely, consideration must be given to: (1) the scope and content of the prior art, (2) the differences between the prior art and the claimed invention, (3) the level of ordinary skill in the pertinent art, and (4) additional evidence, which may serve as indicia of non-obviousness.

An excellent summary of how the prior art must be considered to make a case of *prima facie* obviousness is contained in *In re Ehrreich et al.*, 220 U.S.P.Q. 504, 509-511 (CCPA 1979). There the court states that a reference must not be considered in a vacuum, but against the background of the other references of record. It is stated that the question of a § 103 case is what the reference(s) would "collectively suggest" to one of ordinary skill in the art. However, the court specifically cautioned that the Examiner must consider the entirety of the disclosure made by the reference and avoid combining them indiscriminately.

In finding that the "subject matter as a whole" would not have been obvious in *Ehrreich* the court concluded:

> "Thus, we are directed to no combination of prior art references which would have rendered the claimed subject matter as a whole obvious to one of ordinary skill in the art at the time the invention was made. The PTO has not shown the existence of all the claimed limitations in the prior art or any suggestion leading to their combination in the manner claimed by Appellants." (underlining added)

It has been widely recognized that virtually every invention is a combination of elements and that most, if not all, of these will be found somewhere in an examination of the prior art. This reasoning lead the court, in *Connell v. Sears, Roebuck & Co.*, 220 U.S.P.Q. 193, 199 (Fed. Cir. 1983) to state:

> "...it is common to find elements or features somewhere in the prior art. Moreover, most if not all elements perform their ordained and expected function. The test is whether the claimed invention as a whole, in light of all the teachings of the references in their entireties, would have been obvious to one of ordinary skill in the art at the time the invention was made." (underlining added)

With the above background in mind, Appellants contend that the Examiner has not met this burden with respect to any of the claims on appeal. Particularly, Appellants submit that the PTO has failed to show that each and every element of the claimed invention is contained in the combined references. Appellants now turn to a discussion of the individual rejections at issue, and the references on which they are based.

2. The Rejection of Claims 1-5, 7-13 and 49 over Otaki in view of Coates and Segal

Of this particular set of claims, Claim 1 is independent and the remaining claims all depend from and are narrower in scope than claim 1. Accordingly, Appellant directs the following remarks to Claim 1 and any and all claims depending therefrom.

Independent Claim 1 requires a durable printed composite material as set forth above wherein a printable layer has a viewing surface and a printed surface, wherein an image is printed on the printed surface, and the printable layer comprises a transparent or translucent material, where the printable layer includes an ink-receiving layer. Claim 1 further requires that at least one of the layers, i.e., the printable layer, includes an additive configured for one of light stabilization, liquid resistance, or vapor resistance.

The Examiner alleges that the transparent film and the information of Otaki corresponds to the printable layer of claim 1, that the adhesive layer corresponds to the claimed adhesive layer, and that the volume hologram corresponds to the metallic layer. Without conceding the correctness of the Examiner's assertion, Applicants note that even if such was true, the spatial relationship between the layers of Otaki and those of the claimed invention do not match. Specifically, claim 1 requires that the printable layer be adjacent to the adhesive layer and opposite the metallic layer

such that the reflective sheen background of the metallic layer is visible through the printable layer (i.e. the printable layer is above or closer to the viewing surface of the printed composite material). In contrast, Otaki teaches that the volume hologram layer is above, or closer to the viewing surface of the compositional layer shown in FIG. 10 (the viewing surface being the surface opposite the substrate layer). Thus, even assuming that the holographic layer was analogous to the claimed metallic layer, its relationship in the printed composite does not meet the spatial relationship requirements of claim 1. Specifically, the volume hologram layer (metallic layer) would not be visible through the information or printable layer. Thus, Otaki does not teach this required claim element as set forth in the pending claims.

Further, Otaki does not teach a light stabilizer in any of the claimed layers. The Examiner, however, alleges that Segel teaches a laminate including an adhesive layer wherein the adhesive layer comprises UV stabilizers, and therefore, it would have been obvious to combine the UV stabilizer containing adhesive layer of Segal with the invention of Otaki.

Respectfully, Applicant continues to disagree with the Examiner on this point. Segel teaches a transparent laminate to extend the life of photographs (Abstract). The transparent laminate of Segel "comprises a laminate made of transparent film of ultra-violet-stabilized polyethylene terephthalate or ultraviolet-stabilized acrylonitrile and a transparent silicone or acrylic adhesive bonded to the film, the laminate being adapted to be bonded to the image surface of a photograph by the adhesive." (Abstract). Segel does not teach or suggest a printable layer including an ink receiving layer as required by claim 1. The layer taught by Segel is not configured to be printed upon, is printless, and does not comprise an ink receiving layer. In fact, Segel specifically teaches away from a printable layer. This is due to the fact that the laminate of Segel is expressly configured to "extend the life of photographs and prevent them from gradual deterioration" (Abstract). The laminate of Segel is always transparent so that the photograph (which has the printing on it) can be viewed through the protective laminate. In other words, the printing is not on the laminate, it is on the underlying substrate and is merely protected by the laminate.

In fact, Segel expressly teaches that the characteristics required for the adhesive portion of the laminate include that "it be transparent" (col. 5, lines 14-16). Likewise, Segel expressly requires that film comprising the laminate also "must be

transparent" (col. 5, lines 67-68). The transparent laminate of Segel cannot be printable because if it were printed upon, it would not be transparent, and therefore would hide portions of, or alter the underlying photograph it is designed to cover and protect.

Even if Segel teaches a laminate comprising UV stabilizers, the combination of Segel and Otaki nevertheless does not teach each and every element of claim 1 of the present application. Specifically, neither Otaki nor Segel, nor the combination thereof, teaches a printed composite material including an ink-receiving layer, the printed composite material including at an additive configured for one of light stabilization, liquid resistance, or vapor resistance. As neither Otaki nor Segel teach each and every element of claim 1, either alone or in combination, nor any of the rejected dependent claims related to claim 1, Appellants request that the Board overturn the rejection.

3. The Rejection of Claim 14 over Otaki in view of Coates

A *prima facie* case of obviousness has not been presented for claim 14 for lack of teaching of each and every element of the claim. Specifically, neither Otaki nor Coates teach a metallic foil. A metallic foil, as commonly known, is an independent, thin sheet of self-supporting metal that is separate and distinct from the other layers (Application page 7, lines 17-18). Claim 14 specifically claims a metallic foil layer. Foils should not be confused with metallic layers that are deposited on substrates, and which are not independent or self-supporting.

Otaki teaches only a hologram, and therefore, does not teach a metallic foil. Coates teaches metallic holograms comprising a thin layer of metal, which is always formed and mounted on a substrate (Abstract). Unlike the claimed foil, the metallic layer of Coates is necessarily very thin and is fabricated or deposited on a die or substrate which is then used for transferring purposes (See col. 2. lines 6-11). The methods of Coates, such as vacuum metallization, sputtering and vacuum depositing the thin layer of metal, would not create a foil (col. 2, lines 6-7, 15-17, and 27-29). The metal layers of Coates are not layers of foil, i.e., independent of the other layers and self-supporting metal, but rather are always formed and mounted on a substrate (Abstract, and col. 2, lines 8-10, 18-22, and 29-31).

The Examiner argues that there is nothing in Coates that suggests that the metal layer of Coates is not self-supporting after it has been formed. Respectfully, Applicant disagrees with the Examiner on this point. The fact that the metal layer of Coates is always formed and mounted on a substrate is evidence that it is not independent from the substrate and is also evidence that it is either too thin or not cohesive enough to support itself, and thereby does not qualify as a metallic foil. In addition, Coates expressly teaches extreme thinness of the metal hologram, and even states that:

> "[T]his thinness is necessary... because the metal surface which was not in contact with the die surface will ultimately be the reflective holographic surface; and if the metal is much thicker, it will not adequately reproduce the detailed topology of the holographic master from which the die was fabricated." (col. 2, lines 42-49).

Contrary to the Examiner's position, Applicant submits that the facts discussed above do suggest that the metallic layer of Coates is not self-supporting after it has been formed. The Examiner argues that Coates is combined with Otaki to teach the use of a metallic hologram layer and not to teach the thickness of the hologram layer. Regardless of the purpose in combination, neither Coates nor Otaki teach a metallic foil. To reiterate, a metal foil is a layer that is independent and self-supporting. The procedures and methods taught in Coates necessarily prevent formation of a metal or holographic layer that is either independent or self-supporting. As such, Coates does not teach a metal foil.

As neither Coates nor Otaki teach a metallic foil layer, they do not teach each and every element either alone or in combination. Therefore, Appellants request that the board overturn the rejection.

D. Conclusion

Appellants respectfully submit that the claims on appeal as set forth in the Appendix are patentably distinct from the asserted prior art references. Particularly, the present claims are not obvious over Otaki in view of Coates. The combination of Otaki and Coates does not teach each and every element of the presently claimed invention within the meaning of 35 U.S.C. § 103(a). For this reason, Appellants respectfully requests that the Board of Appeals reverse the rejection and remand the case to the Examiner for allowance.

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VIII. CLAIMS APPENDIX

1. (previously presented) A durable printed composite material, comprising:

a) a printable layer having a viewing surface and a printed surface, wherein an image is printed on the printed surface, said printable layer comprising a transparent or translucent material, said printable layer including an ink-receiving layer;

b) a metallic layer having an inner surface and an outer surface, said inner surface of said metallic layer providing a reflective sheen background, said reflective sheen background being visible through at least a portion of said printable layer; and

c) an adhesive layer adhered between the inner surface and the printed surface such that at least a portion of said metallic layer is visible through the printable layer

wherein at least one of the layers includes an additive configured for one of light stabilization, liquid resistance, or vapor resistance.

2. (original) The material of claim 1, wherein said metallic layer comprises a reflective metal selected from the group consisting of aluminum, silver, indium, zinc, chromium, nickel, gallium, cadmium, palladium, molybdenum, gold, copper, rhodium, niobium and composites or alloys thereof.

3. (original) The material of claim 2, wherein said metallic layer comprises aluminum.

4. (original) The material of claim 1, wherein said metallic layer further comprises a colorant.

5. (original) The material of claim 1, wherein said metallic layer is a metal foil having a thickness of from about 0.01 μm to about 5 μm.

6. (cancelled).

7. (original) The material of claim 1, wherein the printable layer is transparent.

8. (original) The material of claim 7, wherein the printable layer is polyethylene terephthalate.

9. (original) The material of claim 1, further comprising a protective layer bonded to the outer surface of the metallic layer.

10. (original) The material of claim 9, wherein the protective layer comprises a polymer selected from the group consisting of acrylic, epoxy, and mixtures thereof.

11. (original) The material of claim 9, wherein the protective layer has a thickness of from about 0.5 μm to about 100 μm.

12. (original) The material of claim 1, wherein the durable printed composite material has a thickness of from about 50 μm to about 250 μm.

13. (original) The material of claim 1, wherein the durable printed composite material is flexible.

14. (previously presented) A durable printed flexible composite material, comprising:

a) a printable layer having a viewing surface and a printed surface, wherein an image is printed on the printed surface, said printable layer comprising a transparent or translucent material;

b) a metallic foil layer having an inner surface and an outer surface, said inner surface of said metallic foil layer providing a reflective sheen background, said reflective sheen background being visible through at least a portion of said printable layer;

c) an adhesive layer adhered between the inner surface and the printed surface; and

d) a protective layer adhered to the outer surface of the metallic layer;

wherein the durable printed composite material has a thickness of from about 50 μm to about 250 μm.

15. (withdrawn) A method of forming a durable printed composite material, comprising steps of:

a) reverse printing an image on a printable layer to form a printed surface, said printable layer comprising a transparent or translucent material;

b) providing a metallic layer having an inner surface and an outer surface;

c) adhering the printed surface to the inner surface of the metallic layer; and

d) applying heat and pressure to the metallic layer,

wherein said inner surface of the metallic layer is at least partially visible through the printable layer.

16. (withdrawn) The method of claim 15, wherein the step of reverse printing is accomplished by a printing technique selected from the group consisting of ink-jet, laser, electrostatic, offset, gravure, and liquid electrophotography.

17. (withdrawn) The method of claim 16, wherein the step of reverse printing is accomplished by ink-jet or laser printing.

18. (withdrawn) The method of claim 15, wherein heat and pressure is applied using a heated roller.

19. (withdrawn) The method of claim 15, wherein the metallic layer is a metal foil comprising a metal selected from the group consisting of aluminum, silver, indium, zinc, chromium, nickel, gallium, cadmium, palladium, molybdenum, gold, copper, rhodium, niobium and composites or alloys thereof.

20. (withdrawn) The method of claim 19, wherein the metal foil is aluminum.

21. (withdrawn) The method of claim 15, wherein the metallic layer further comprises a colorant.

22. (withdrawn) The method of claim 15, wherein the printable layer is transparent.

23. (withdrawn) The method of claim 15, further comprising a protective layer bonded to the outer surface of the metallic layer.

24. (withdrawn) A system for forming a durable printed composite material, comprising:

a) a printable layer comprising a transparent or translucent material, said printable layer including a printable surface configured for receiving a printed image; and

b) a reflective metallic layer having an inner surface and an outer surface, said inner surface being configured for adhering to the printable surface.

25. (withdrawn) The system of claim 24, further comprising a printer configured for reverse printing an image on the printable surface.

26. (withdrawn) The system of claim 25, further comprising a contacting mechanism configured for receiving said printable layer and said reflective metallic layer and applying heat and pressure sufficient to adhere the inner surface of the reflective metallic layer to the printable surface of the printable layer.

27. (withdrawn) The system of claim 26, wherein the printer and contacting mechanism are integrated as a single unit.

28. (withdrawn) The system of claim 26, wherein said contacting mechanism includes a heating element selected from the group consisting of a heated roller, a ceramic heater element, and thermal print head elements.

29. (withdrawn) The system of claim 26, further comprising a preheater configured for heating at least the reflective metallic layer, said preheater configured to be used prior to the contacting mechanism.

30. (withdrawn) The system of claim 26, further comprising a dryer configured for drying the image prior to applying heat and pressure.

31. (withdrawn) The system of claim 24, wherein said reflective metallic layer is a metallized thermal transfer overcoat having a protective layer bonded to the outer surface of the metallic layer.

32. (withdrawn) The system of claim 31, wherein said metallic layer comprises a metal selected from the group consisting of aluminum, silver, indium, zinc, chromium, nickel, gallium, cadmium, palladium, molybdenum, gold, copper, rhodium, niobium and composites or alloys thereof.

33. (withdrawn) The system of claim 32, wherein the metallic layer comprises aluminum.

34. (withdrawn) The system of claim 24, wherein the durable printed composite material, once formed, has a thickness of from about 50 μm to about 250 μm.

35. (withdrawn) The system of claim 24, wherein the durable printed composite material, once formed, is flexible.

36. (previously presented) A durable printed composite material, comprising:

a) a printable layer having a viewing surface and a printed surface, wherein an image is printed on the printed surface, said printable layer comprising a transparent or translucent material;

b) a metallic layer having an inner surface and an outer surface, said inner surface of said metallic layer providing a reflective sheen background, said reflective sheen background being visible through at least a portion of said printable layer, and said metallic layer being image-free; and

c) an adhesive layer adhered between the inner surface and the printed surface such that at least a portion of said metallic layer is visible through the printable layer.

37. (previously presented) The material of claim 36, wherein said metallic layer comprises a reflective metal selected from the group consisting of aluminum, silver, indium, zinc, chromium, nickel, gallium, cadmium, palladium, molybdenum, gold, copper, rhodium, niobium and composites or alloys thereof.

38. (previously presented) The material of claim 37, wherein said metallic layer comprises aluminum.

39. (previously presented) The material of claim 36, wherein said metallic layer further comprises a colorant.

40. (previously presented) The material of claim 36, wherein said metallic layer is a metal foil having a thickness of from about 0.01 μm to about 5 μm.

41. (previously presented) The material of claim 36, wherein the printable layer comprises a member selected from the group consisting of polyesters, cellulose esters, polyamides, polycarbonates, polyimides, polyolefins, polysulfonamides, and composites or mixtures thereof.

42. (previously presented) The material of claim 36, wherein the printable layer is transparent.

43. (previously presented) The material of claim 42, wherein the printable layer is polyethylene terephthalate.

44. (previously presented) The material of claim 36, further comprising a protective layer bonded to the outer surface of the metallic layer.

45. (previously presented) The material of claim 44, wherein the protective layer comprises a polymer selected from the group consisting of acrylic, epoxy, and mixtures thereof.

46. (previously presented) The material of claim 44, wherein the protective layer has a thickness of from about 0.5 μm to about 100 μm.

47. (previously presented) The material of claim 44, wherein the durable printed composite material has a thickness of from about 50 μm to about 250 μm.

48. (previously presented) The material of claim 36, wherein the durable printed composite material is flexible.

49. (previously presented) The material of claim 1, wherein the printable layer comprises a member selected from the group consisting of polyesters, cellulose esters, polyamides, polycarbonates, polyimides, polyolefins, polysulfonamides, and composites or mixtures thereof.

IX. EVIDENCE APPENDIX

None

X. RELATED PROCEEDINGS APPENDIX

None